# Section 4:
# Transportation Element

## 4.1 Introduction

**Bloomington's transportation mission is to facilitate movement of people and goods quickly, safely, inexpensively, and comfortably to any desired destination while, at the same time, seeking to minimize associated negative impacts on community livability. Transportation is not an end in and of itself, but rather one of many means to achieve a desirable and livable community. Toward this end, the City advocates a range of transportation infrastructure, roadways, and fixed guideways, walkways and bikeways, to support a family of vehicles, each operating successfully side by side and in a manner that minimizes conflicts with surrounding land uses.**

# 4.2 Roadway Network


## Historical Origins

Until the mid-1800s, Minnesota's primary transportation corridors were not roads, but rivers. Native Americans traveled, settled, and traded along the Minnesota, Mississippi, and other area rivers for centuries. The first European explorers and settlers also relied primarily on the rivers. Early activity centers such as Fort Snelling, St. Paul, and Shakopee were sited based on their river accessibility. To augment river transportation between these early activity centers, overland trails were laid out. One of Bloomington's first roads originated as the trail connecting Fort Snelling with Shakopee, commonly referred to as the Shakopee Road. Today's Old Shakopee Road generally follows the alignment of this original trail.

In the 1850s the government sold most of the land that currently comprises Bloomington to settlers who started farms. It then became necessary to have a roadway system to support the movement of goods and people between farm and market. Dirt roads for horses and wagons were established primarily along the section lines. Today, the original section roads, such as Portland, Lyndale, Penn, France, and Normandale, each spaced one mile from the previous, have become primary streets in Bloomington. Primary east-west streets, such as 86th and 102nd, were also first constructed as section roads.

Without bridges over major rivers, travelers relied on ferries. The "Bloomington Ferry" was a major Minnesota River crossing for those travelling the Shakopee Road. As discussed in *Bloomington on the Minnesota* (1976, Judith A. Hendricks, Editor), the Bloomington Ferry was established in 1852 at a spot long used by Native Americans for fording horses. When Bloomington's first Minnesota River bridge, the "Bloomington Ferry Bridge", was completed at the same spot in 1890, the ferry went out of busi-

ness and the ferryman became the bridge watchman. A second Minnesota River bridge was completed at Cedar Avenue in 1892.

Over the years, Bloomington's original roads were upgraded from trails to dirt and gravel roads to paved roads. As farms were converted to development, especially in the 1950s and 60s, local streets were added and the section roads were expanded. Bloomington is now fully developed and the urban roadway system is essentially complete. Today's transportation planning focus is not on building new roads but on renewing, managing, and improving the existing roads.

## Existing Roadways

Roads serve two major functions: to provide mobility and to provide land access. From a design standpoint, these functions are divergent. The mobility function is best served through a design that encourages continuous, high speeds while the land access function is best served by a design that encourages low speeds. To accommodate these equally necessary but incompatible functions, a hierarchy of roads has been developed which is commonly referred to as functional classification. Each road has its service to perform and needs to be designed accordingly, from the local residential street that accommodates frequent driveways to the multi-lane freeway with well-spaced, grade separated interchanges. *Figure 4.1* depicts the functional classification of roads in Bloomington.

The typical characteristics of each class of road are described in *Table 4.1*. These characteristics can and do vary, however. While the table provides a general feel for the relative purpose and role of each street class, individual streets can depart from these typical characteristics in some circumstances. *Figure 4.2* depicts the number of lanes for each Bloomington roadway.

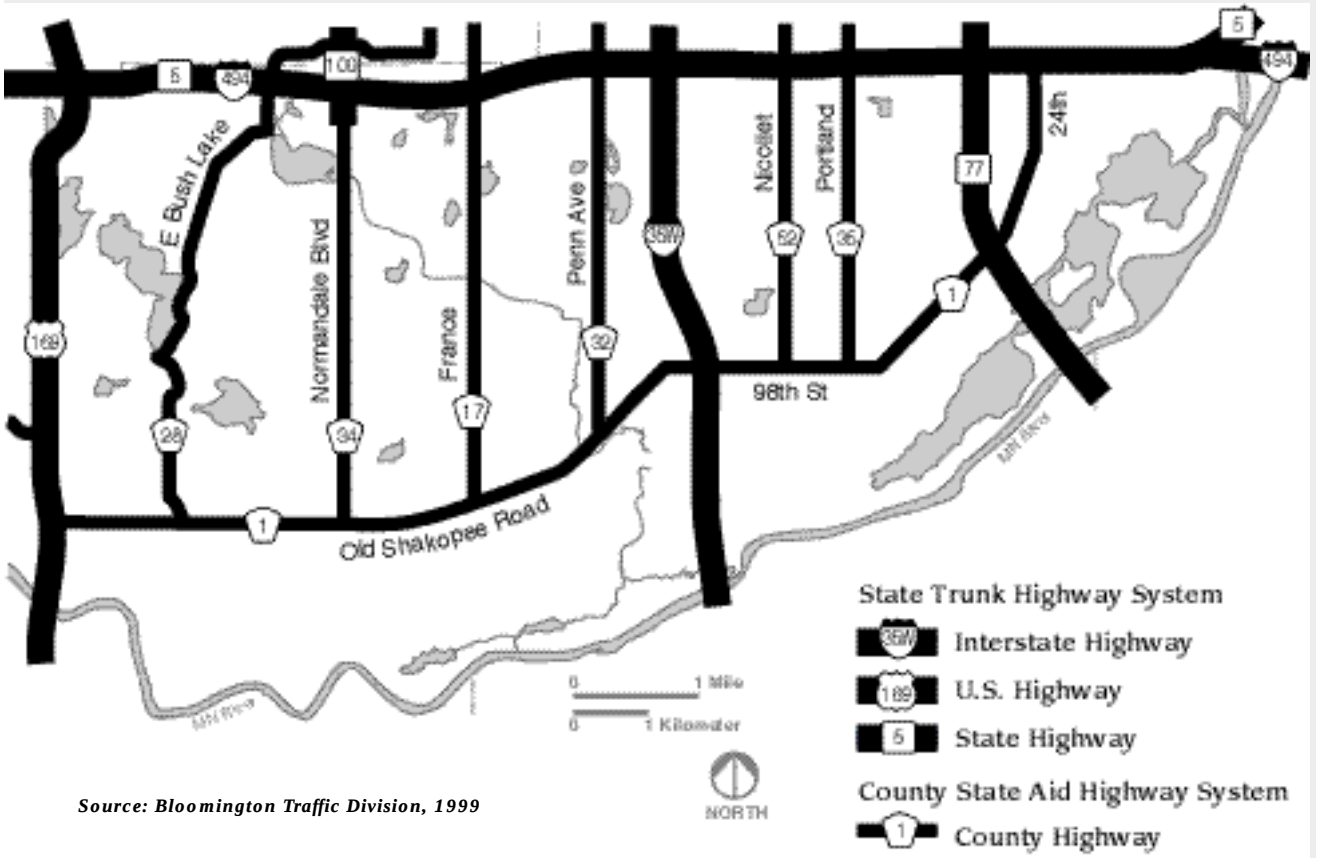
Jurisdiction over roadways in Bloomington is designated to or

***Table 4.1*** **Typical Roadway Characteristics by Functional Classification**

| Characteristic | Principal Arterial | Minor Arterial | Collector | Local |
|---|---|---|---|---|
| Place Connections | Interconnect metro centers and regional business concentrations | Interconnect major traffic generators, supplement primary arterials | Interconnect neighborhoods and minor business concentrations | Interconnect blocks within residential neighborhoods and land parcels within non-residential developments |
| System Connections | To other principal arterials and selected minor arterials | To principal arterials, other minor arterials, collectors, and some local streets | To minor arterials, other collectors, and local streets | To collectors and other local roads, to some minor arterials |
| Trips | Greater than 8 miles, 5 of which on the principal arterial | 2-6 miles at moderate speeds | 1-4 miles at low to moderate speeds | Under 2 miles at low speeds |
| Mobility vs. Land Access | Emphasis on mobility, no land access allowed | Emphasis on mobility, land access should be minimized | Equal emphasis on mobility and land access | Emphasis on land access, not on mobility |
| Intersections | Grade separated desirable, required for freeways | Traffic signals and cross street stops | Four way stops and some traffic signals | As required |
| Management Tools | Ramp metering, preferential treatment for transit, interchange/ intersection spacing | Traffic signal progression and spacing, land access management/ control, preferential treatment for transit | Number of lanes, traffic signal timing, land access management | As necessary |
| Vehicles/Day | 25,000-200,000 | 5,000-30,000 | 1,000-15,000 | Less than 1,000 |
| Speed Limits | 55-65 mph | 35-45 mph | 30-40 mph | Maximum 30 mph |
| Right of Way | As required | 100-120 feet | 80 feet | 60 feet |

***Source: Based on Metropolitan Council Functional Classification System Criteria, Transportation Policy Plan Appendix, 1996***

***Figure 4.3* Roadway Jurisdiction**




***Source: Bloomington Traffic Division, 1999***

shared by the City, County, and State. Generally, the Minnesota Department of Transportation maintains the interstate and trunk highway system on behalf of the State, Hennepin County maintains the County State Aid Highways system, and the City maintains the remaining roadways. *Figure 4.3* depicts roadways within Bloomington under State and County jurisdiction.

The City's Traffic and Transportation Division has prepared average daily traffic forecasts for the year 2020 for Bloomington's arterial and collector streets. These 2020 forecasts along with year 2000 volumes are depicted in *Figure 4.4*. Year 2000 volumes were used as a base from which to forecast the 2020 volumes. The forecast methodology used multiple data inputs and considered anticipated land development and other trip generation factors. Some of the 2020 forecasted volumes were calculated by using a 2% annual trip growth rate. Some forecasts were adjusted from that calculation on the basis of land development maturity or anticipated change of trip generation rate in the travel shed. In addition, some of the calculated forecast volumes were adjusted because of modifications to the infrastructure such as the planned construction of the 79th Street/80th Street Bridge over I-35W and the Nord Avenue Bridge over I-494.

Some collector level streets are forecast to experience little change in the next 20 years. Generally the infrastructure of street section and rights of way should not be diminished in those instances as future decades could revitalize a new generation of redevelopment and transportation needs, including new and alternate travel modes in addition to accommodation of greater volumes.

The Bloomington 2020 travel forecasts do not differentiate or assign modal splits. The availability of alternate mode trip accommodation in Bloomington is anticipated to a limited degree. Although alternate modes are a very important and foresighted component of the transportation system within the region and within Bloomington, the percentage of trips carried is anticipated in the single digit range and will not diminish the necessity for excellent and extensive street and highway capacity.

**[Insert Figure 4.1: Functional Roadway Classification – 11 x 17 fold out, color map]**

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**[Insert Figure 4.2: Through Lanes in Each Direction – 11 x 17 fold out, black and white map]**

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**[Insert Figure 4.4: Daily Traffic Volumes – 11 x 17 fold out, black and white map]**

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**[Insert Figure 4.5: Traffic Analysis Zones – 11 x 17 fold out, black and white map]**

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Traffic forecasts on the regional roadway system are prepared by the Metropolitan Council. To assist the Metropolitan Council in preparing regional traffic forecasts, *Table 4.2* depicts the City's household, population, and employment forecasts out to the year 2020 broken down by traffic analysis zones for easy insertion into the regional model. Traffic Analysis Zone boundaries are depicted in *Figure 4.5*.

## Roadway Network Challenges

### Congestion

The most significant challenge facing Bloomington's roadway network in the next 20 years is increasing congestion, particularly on the regional highway system. Congestion is costly to society in environmental terms and represents a significant drain on the economy. Severe congestion can have a large impact on the ability to attract residents and employers and thereby affect the growth of a community. Bloomington must continue to take aggressive steps to combat congestion.

Many experts argue that congestion is unavoidable in a large metropolitan region such as the Twin Cities, that congestion is a natural stage in the evolution of a city, and that a region cannot simply build its way out of congestion. Congestion can be seen as one function of growth and prosperity. Every large American metropolitan area sees congestion. Successful cities throughout history have been congested. Still, there continues general agreement that steps can and should be taken to minimize congestion by assisting the transportation infrastructure toward increased capacity and efficiency.

Roadway congestion is a complex phenomenon that is influenced by numerous issues, many of which are beyond the jurisdiction of individual municipalities. A detailed analysis of congestion would have to include discussion of issues as varied as federal tax policy, federal and state highway funding, regional growth management strategies, fuel prices, and consumer housing preferences to name only a few relevant issues. Perhaps the largest factor influencing congestion that cities can directly impact is local land use.

Cities could, in theory, enact land use controls to keep density of development low enough to avoid overtaxing transportation infrastructure. Such an approach would, however, result in many undesirable consequences. Businesses and the residential and institutional uses that follow employment opportunities would be forced ever outward, leading to inefficient land use patterns, continuing infrastructure expansions, and longer trip distances which would itself increase congestion. The lack of density would make it very difficult to provide transit service. Resulting sprawl would consume valuable farmland and open spaces. Such an approach would also be in conflict with the market dynamics that drive businesses in their locational decisions. For these reasons, the Metropolitan Council has wisely pursued a policy of focusing growth within and along the I-494/694 corridor.

There are meaningful steps that cities can take individually and in groups to combat congestion. Bloomington will continue to work individually and with multi-jurisdictional groups, such as the I-494 Corridor Commission and the I-35W Solutions Alliance, to combat congestion. Bloomington's strategy for combating congestion includes the following elements:

- Pursue roadway improvements
- Use technology to make the existing transportation system more efficient
- Take steps to reduce travel demand, especially during peak periods
- Coordinate land use and transportation decisions

#### Roadway Improvements

Bloomington will work toward numerous roadway improvements to increase roadway capacity, remove existing bottlenecks, and enhance efficiency and safety through improved operational integrity of the travelways and supportive networks. These improvements are discussed in the section on Planned Roadway Improvements.

#### Increased Efficiency through New Technology

Bloomington will continue to identify, promote, and implement technologies that can increase the efficiency of existing transportation infrastructure. Some of this technology, such as ramp metering and traffic dependent signal timing, has been around for many years, but continues to improve. Other technology is new.

Intelligent Transportation System (ITS) technology has proven to be applicable in numerous transportation systems. Recently, an ITS has been implemented along I-494 and its parallel arterials on the north and south sides. This system allows a controller to view traffic conditions through video cameras and street detectors and use variable and changeable message signs to guide travelers off the freeway and onto the parallel routes for a segment to avoid a traffic accident.

*Table 4.2* **TAZ Household, Population and Employment Forecasts**

| | Households | | | Population | | | Employment | | |
|---|---|---|---|---|---|---|---|---|---|
| TAZ | 2000 | 2010 | 2020 | 2000 | 2010 | 2020 | 2000 | 2010 | 2020 |
| 471 | 295 | 130 | 583 | 599 | 330 | 1,111 | 6,790 | 9,113 | 14,202 |
| 472 | - | 1,191 | 1,736 | 0 | 2,056 | 2,999 | 9,156 | 11,795 | 11,795 |
| 473 | 686 | 676 | 676 | 1,372 | 1,442 | 1,442 | 11,805 | 15,801 | 15,801 |
| 474 | 910 | 905 | 918 | 2,651 | 2,639 | 2,670 | 3,104 | 3,304 | 3,504 |
| 475 | 1,111 | 1,105 | 1,121 | 2,492 | 2,477 | 2,514 | 560 | 560 | 560 |
| 476 | 1,117 | 1,112 | 1,126 | 2,318 | 2,307 | 2,340 | 375 | 375 | 375 |
| 477 | 2,265 | 2,350 | 2,378 | 5,204 | 5,404 | 5,470 | 1,594 | 1,619 | 1,644 |
| 478 | 1,150 | 1,144 | 1,159 | 2,892 | 2,879 | 2,914 | 100 | 100 | 100 |
| 479 | 803 | 799 | 810 | 1,797 | 1,788 | 1,814 | 222 | 222 | 222 |
| 480 | 740 | 736 | 745 | 1,869 | 1,861 | 1,882 | 97 | 97 | 97 |
| 481 | 856 | 851 | 863 | 2,013 | 2,002 | 2,030 | 2,096 | 2,296 | 2,496 |
| 482 | 270 | 268 | 272 | 785 | 781 | 790 | 1,050 | 1,250 | 1,450 |
| 483 | 82 | 69 | 70 | 191 | 160 | 163 | 2,538 | 2,738 | 2,938 |
| 484 | 183 | 181 | 184 | 459 | 455 | 462 | 1,476 | 1,676 | 1,876 |
| 485 | 808 | 806 | 817 | 1,831 | 1,826 | 1,851 | 373 | 398 | 423 |
| 486 | 645 | 720 | 729 | 1,389 | 1,564 | 1,586 | 4,046 | 4,196 | 4,346 |
| 487 | 979 | 974 | 988 | 2,010 | 1,998 | 2,031 | 2,364 | 2,464 | 2,564 |
| 488 | 209 | 208 | 211 | 470 | 468 | 475 | 2,365 | 2,465 | 2,565 |
| 489 | 1,295 | 1,294 | 1,313 | 2,707 | 2,704 | 2,749 | 655 | 655 | 655 |
| 490 | 1,126 | 1,127 | 1,142 | 2,970 | 2,973 | 3,008 | 221 | 221 | 221 |
| 491 | 2,359 | 2,354 | 2,383 | 6,077 | 6,065 | 6,133 | 571 | 571 | 571 |
| 492 | 2,102 | 2,206 | 2,237 | 4,703 | 4,946 | 5,019 | 1,561 | 1,561 | 1,561 |
| 493 | 1,749 | 1,769 | 1,794 | 3,996 | 4,043 | 4,102 | 779 | 779 | 779 |
| 494 | 976 | 972 | 985 | 2,348 | 2,339 | 2,369 | 288 | 288 | 288 |
| 495 | 590 | 587 | 595 | 1,497 | 1,490 | 1,509 | 489 | 489 | 489 |
| 496 | 35 | 34 | 35 | 145 | 144 | 146 | 3,796 | 3,896 | 3,996 |
| 497 | 219 | 218 | 221 | 522 | 520 | 527 | 2,669 | 2,669 | 2,669 |
| 498 | 615 | 613 | 621 | 1,549 | 1,544 | 1,563 | 330 | 330 | 330 |
| 499 | 204 | 203 | 206 | 233 | 230 | 237 | 3,207 | 3,407 | 3,607 |
| 500 | - | - | - | 0 | 0 | 0 | 6,246 | 6,396 | 6,546 |
| 501 | 1,568 | 1,565 | 1,586 | 3,783 | 3,776 | 3,825 | 1,863 | 1,863 | 1,863 |
| 502 | 639 | 635 | 644 | 1,264 | 1,255 | 1,276 | 3,331 | 4,191 | 4,391 |
| 503 | 1,015 | 1,013 | 1,026 | 2,359 | 2,354 | 2,384 | 251 | 251 | 251 |
| 504 | 312 | 311 | 313 | 575 | 573 | 578 | 6,621 | 8,501 | 8,526 |
| 505 | 1,580 | 1,598 | 1,624 | 3,740 | 3,782 | 3,843 | 190 | 190 | 190 |
| 506 | 628 | 630 | 644 | 1,486 | 1,491 | 1,524 | 224 | 224 | 224 |
| 507 | 1,726 | 1,745 | 1,769 | 4,211 | 4,256 | 4,312 | 72 | 72 | 72 |
| 508 | 682 | 679 | 689 | 1,519 | 1,512 | 1,535 | 1,131 | 1,181 | 1,231 |
| 509 | 1,196 | 1,190 | 1,205 | 2,911 | 2,898 | 2,933 | 342 | 342 | 342 |
| 510 | 1,262 | 1,297 | 1,318 | 2,726 | 2,808 | 2,857 | 5,625 | 6,011 | 6,211 |
| 511 | 1,372 | 1,367 | 1,383 | 3,398 | 3,387 | 3,425 | 379 | 379 | 379 |
| 512* | - | - | - | 0 | 0 | 0 | 857 | 857 | 857 |
| 517* | 2 | 2 | 2 | 8 | 8 | 8 | 3,371 | 5,987 | 6,087 |
| 534* | - | - | - | 0 | 0 | 0 | 3,177 | 3,202 | 3,227 |
| 535* | 2 | 2 | 2 | 6 | 6 | 6 | 2,460 | 2,485 | 2,510 |
| 537* | - | - | - | 0 | 0 | 0 | 586 | 611 | 636 |
| 541* | 37 | 34 | 35 | 97 | 89 | 91 | 0 | 0 | 0 |
| 542* | - | - | - | 0 | 0 | 0 | 528 | 528 | 528 |
| Citywide | 36,400 | 37,674 | 39,162 | 85,172 | 87,632 | 90,503 | 101,931 | 118,606 | 126,195 |

*Source: Bloomington Planning Division, October 2003*

The City has recently applied for a TEA-21 grant to install variable message signs in the Airport South District.

Another promising new technology is the wealth of traffic information available on the web. Travelers can view real time photos and maps of traffic conditions. The information can be used to select an alternative, less congested route or to delay a trip until travel conditions improve. Travelers can even receive daily e-mail summarizing traffic conditions along their route and projecting travel time.

As technology advances, there will continue to be new applications for increasing transportation efficiency.

**Reducing Travel Demand**

Bloomington will work with local employers and neighboring cities to combat congestion through Transportation Demand Management (TDM). TDM is a general name given to a variety of techniques designed to reduce congestion by altering individual travel behavior and the overall demand for travel, especially in peak periods.

One clear inefficiency in our present transportation system is the peaking phenomenon, often referred to as "rush hour". Since most people's work hours start and end at roughly the same times, a large burden is placed on the road and transit systems during these periods. To minimize congestion, transportation systems are designed with the peak period in mind. Highways that are frequently congested during peak periods may be well under capacity at other times. Large buses that are full during rush hours may run close to empty at non-peak times. The peaking phenomenon is very expensive for the taxpayer since transportation systems need to be sized to meet heavy demands that are present for only a portion of the day.

Congestion could be substantially reduced if employers and employees were willing to stagger work hours. Staggered work hours would more evenly disperse trips over the course of the day and reduce the number of trips taken during peak periods, thereby reducing congestion. The City of Bloomington has a role to play in encouraging staggered work hours by promoting the benefits to local employers and by setting a positive example through its own work hours.

Another way TDM strives to improve the efficiency of existing transportation systems is by encouraging the public to choose modes of travel such as carpools and transit that have a lower impact on congested roadways. Increasing the occupants per vehicle reduces the vehicles on the road, which in turn reduces congestion. While reducing congestion is an important objective in and of itself, multiple occupant vehicles have the added benefit of improving air quality, reducing resource consumption, and lowering the need for parking spaces. However, convincing large numbers of people to carpool or use transit is not an easy task. The single occupant vehicle is widely regarded as the most flexible and desirable mode choice. Most commuters will resist a change in modes unless they can realize substantial time and/or cost savings.

Methods of encouraging commuters to consider carpooling include high occupancy vehicle (HOV) lanes, HOV ramp meter bypasses, preferential parking for carpools, and ride-matching services. HOV lanes currently exist in Bloomington on I-35W south of 86th Street and are proposed for implementation on I-35W north of 86th Street by 2003. The flexibility to provide for HOV lanes is included in preliminary MNDOT plans for I-494 improvements throughout Bloomington. Section A4.1 of the appendix provides detailed information on the location of existing freeway ramp meters and HOV ramp meter bypasses.

Methods to make transit more viable and attractive include service improvements, transit vehicle signal preemption, bus shoulder authorization, convenient park and rides, bus shelters, and timed transfer stations. Recommendations regarding needed transit improvements in Bloomington are offered later in this element.

One of the best ways to encourage commuters to consider alternatives to the single occupant vehicle is through promotion at the workplace. A few examples of incentives and resources that employers can provide include:

- Ride matching services
- Lobby kiosks with transit, carpooling, and commuting information
- Commuting newsletters
- Commuter fairs
- Bus shelters
- Sidewalks to bus stops
- Subsidized or free bus passes to interested employees for a short period to encourage employees to give transit a try and see if it works for them
- Preferential carpool/vanpool parking
- Vanpool subsidies
- Showers and lockers to encourage biking to work

Area cities are starting to require new development within congested areas to commit

resources and prepare plans that document how developers, employers, and property managers will encourage employees to place less of a burden on the transportation system. These plans are referred to as Transportation Management Plans (TMPs). Bloomington has required TMPs in the past by condition of approval but they are not yet required by the City Code. As recommended by the I-494 Corridor Commission, Bloomington will consider Code amendments to require TMPs for new development meeting appropriate thresholds. The City will also work with business organizations such as the Chamber of Commerce to promote implementation of TDM methods within existing businesses.

**Land Use and Transportation Coordination**

Bloomington will work to reduce the need to travel by promoting a variety of land uses well distributed throughout the City. Trip lengths can be reduced if residents have access to goods and services in close proximity to their homes. Cutting the length of trips in half reduces congestion as much as cutting the number of trips in half. The City will also reduce the need for motorized travel by promoting mixed land uses and non-motorized vehicle access ways. Residents may prefer to leave their cars at home and walk or bike to pick up a gallon of milk or go out to eat, but only if their destination is in close proximity and can be safely and pleasantly reached by non-motorized means.

## Safety

Safety has historically been and will continue to be a principal City focus in managing its transportation infrastructure. To promote roadway safety, the City will pursue the following actions:

- Use fundamentals of visibility, spatial relationships, adequate geometrics, and appropriate gradients in roadway design.
- Consistently apply warranted traffic control devices.
- Acquire adequate right of way to provide for safety enhancing features such as medians and boulevard type sidewalks.
- Include accessible ramps at sidewalk intersections with streets.
- Provide raised median channelization when feasible.
- Separate turn lanes when feasible.
- Require setbacks sufficient to maintain visibility and safety.
- Permit driveway designs and locations only in conformance with the City's access management practices.
- Coordinate reviewing and permitting of access to county and state roadways with appropriate agencies.
- Take access and safety factors into consideration in the review of development proposals. Access management has the added benefit of improving street capacity.
- Enforce traffic laws and implement promising, emerging enforcement techniques.
- As new development or redevelopment occurs, encourage land uses that are compatible with adjacent streets.
- Minimize obstacles and safety hazards at the sides of roadways.
- Provide appropriate street lighting levels.
- Perform snow and ice removal as necessary.

*Figure 4.6* depicts traffic accidents for the two year period 1997-1998 while *Table 4.3* depicts traffic accident levels between 1995 and 1998. It should be noted that nearly all of the more extensive accidents with high property damage and personal injury occur on streets with regulatory traffic control devices (signals and stop signs) present. Only a small percentage of reported traffic accidents, less than 3% in Bloomington, occur on the local street network where statutory laws dictate the rights of way and traffic operating obligations. This fact is repeatedly demonstrated on an annual basis in Bloomington.

**[Insert Figure 4.6: Traffic Accidents 1997-1998 – black and white, 11 x 17]**

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## Compatibility with Residential Areas

A frequently voiced resident concern relates to the issue of traffic in residential neighborhoods, particularly in regards to volume and traffic law violations or driving manner. Like most American cities, Bloomington's streets are set up in a hierarchical fashion, ranging from a typical low volume local street, to a collector street such as Xerxes Avenue or 12th Avenue, to a minor arterial such as Old Shakopee Road, to a principal arterial such as I-35W. Each street has its role, which is reflected by traffic volumes and speed and by the design and width of the street itself (*see Table 4.2*). Problems begin to occur when congestion or some other bottleneck becomes severe enough to cause drivers to leave higher volume streets for alternative routes or "short cuts" along streets that were not expected to carry that level of traffic. Frustrated with the delay, drivers may ignore posted or statutory speed limits, stop signs, or signal lights, thereby creating safety hazards.

A desirable, livable community needs an efficient roadway transportation system. But such a community also needs safe and quiet neighborhoods. Achieving a balance requires efficient arterial and collector streets with minimal bottlenecks coupled with local streets that do not encourage speeding or cut-through traffic and residents who are willing to conscientiously monitor their driving behavior. The following text discusses residential area violation and volume issues and recommends specific approaches for addressing each.

***Table 4.3*** **Reported Traffic Accidents, 1995 - 1998**

| Roadway System Type of Crash | Total Mileage | Crashes Reported | | | | Yearly Average |
|---|---|---|---|---|---|---|
| | | 1995 | 1996 | 1997 | 1998 | |
| **All Routes - Total** | **420.5** | **2496** | **2577** | **2462** | **2469** | **2501** |
| Fatal | | 5 | 0 | 5 | 6 | 4 |
| Personal Injury | | 793 | 780 | 765 | 772 | 778 |
| Property Damage | | 1,698 | 1,797 | 1,692 | 1,691 | 1,720 |
| **Interstates - Total** | **14.8** | **865** | **917** | **873** | **966** | **905** |
| Fatal Crashes | | 2 | 0 | 2 | 2 | 1.5 |
| Personal Injury | | 209 | 201 | 214 | 256 | 220 |
| Property Damage | | 654 | 716 | 657 | 708 | 684 |
| **USTH System - Total** | **5.2** | **53** | **62** | **98** | **115** | **82** |
| Fatal | | 0 | 0 | 0 | 1 | 0.25 |
| Personal Injury | | 9 | 14 | 25 | 30 | 20 |
| Property Damage | | 44 | 48 | 73 | 84 | 62 |
| **MNTH System - Total** | **3.1** | **86** | **114** | **91** | **109** | **100** |
| Fatal | | 0 | 0 | 0 | 0 | 0 |
| Personal Injury | | 20 | 29 | 24 | 33 | 27 |
| Property Damage | | 66 | 85 | 67 | 76 | 74 |
| **CSAH System - Total** | **29.4** | **834** | **772** | **727** | **620** | **738** |
| Fatal | | 1 | 0 | 3 | 0 | 1 |
| Personal Injury | | 305 | 290 | 276 | 247 | 280 |
| Property Damage | | 528 | 482 | 448 | 373 | 458 |
| **MSAS System - Total** | **73.7** | **498** | **560** | **498** | **527** | **521** |
| Fatal | | 2 | 0 | 0 | 1 | 0.75 |
| Personal Injury | | 194 | 199 | 164 | 179 | 184 |
| Property Damage | | 302 | 361 | 334 | 347 | 336 |
| **Municipal System - Total** | **294.3** | **160** | **152** | **175** | **132** | **155** |
| Fatal | | 0 | 0 | 0 | 2 | 0.5 |
| Personal Injury | | 56 | 47 | 62 | 27 | 48 |
| Property Damage | | 104 | 105 | 113 | 103 | 106 |

***Source: Minnesota Transportation Information System Yearly Accident Reports***

### Traffic Law Violations

While traffic law violations and less conscientious driving habits occur on all levels of streets, they are of particular concern on local residential streets. Because of lower volumes and lower speeds, residents may take fewer precautions on local residential streets, parents are more likely to let children cross randomly, and children are more likely to play in the street. The shortage of sidewalks along most local Bloomington streets often forces children and adults to use the street when

walking or biking. In this environment, running a stop sign, speeding, not yielding the right of way, and not driving in a careful, conscientious manner is particularly objectionable and may be dangerous.

There are at least two classes of traffic law violators on local residential streets, those who live in the neighborhood and those who do not and may live a great distance away. The first class is most common. For the driver who lives in the neighborhood and violates traffic laws and careful practices, the problem can only be addressed through changing the driver's behavior whether through voluntary means, enforcement, or mandatory or influencing restraints. The violating driver from outside the neighborhood is usually not there by choice but by virtue of congestion or bottlenecks on a more direct, higher volume roadway. Their violations may be a function of frustration, of being unable to meet a deadline due to congestion or bottlenecks. Such a driver identifies less with the neighborhood and may be less likely to change behavior voluntarily. They may also be out of the reach of City traffic law compliance marketing efforts. Unlike the violator who resides in the neighborhood, it may be possible to eliminate the non-neighborhood violator if the congestion, bottleneck, or route inadequacy that forces them onto the local residential street in the first place can be addressed.

*Coordinated Effort to Improve Driver Behavior*

While there are important steps that government can take to encourage traffic law compliance, in the end, change is up to the individual driver. Bloomington's approach for addressing the compliance issue will therefore start with a coordinated effort to improve driver behavior. Since the vast majority of all trips on local residential streets are made by residents of the neighborhood themselves, this effort must include significant neighborhood participation. As a springboard for neighborhood participation, Bloomington will use the existing Neighborhood Watch Group and National Night Out structure to raise this issue, foster discussion, and build awareness. Neighborhood groups could then take actions such as distributing brochures or encouraging neighbors to sign traffic law compliance pledges. The effort must utilize other communication devices, as well, such as the City newsletter, City website, community television, and occasional signs at key locations.

*Improved Traffic Law Enforcement*

Bloomington will also step up traffic law enforcement on local residential streets. This effort will require additional personnel focused specifically on neighborhood traffic. To promote self-enforcement, more speed trailers may be required. New enforcement technologies should also be explored and tested. One such promising technology can take a photo of the license plate of drivers who run a red light or exceed a certain speed. With appropriate state legislation, a warning letter or even citation could then be sent to the registered owner of the vehicle. Clearly, privacy issues will need to be addressed with any such technology.

*Roadway Improvements*

In addition to an effort to change driver behavior and increased enforcement, planned roadway improvements are another central element to the City's approach on this issue. The numerous roadway improvements discussed in the next section are proposed to address specific congestion points and bottlenecks. Improving traffic flow on more direct, higher volume streets will reduce the number of non-neighborhood traffic law violators on local residential streets.

*Design Considerations/Traffic Calming Study*

If traffic law violations remain persistent at specific locations, the City will consider the feasibility of design features or intelligent transportation systems to physically discourage violations. Drivers tend to choose a speed that is comfortable to maintain given the design and operational characteristics of their roadway. Communities across the country have been experimenting with design features that reduce a driver's comfort level in order to slow down traffic and reduce the street's appeal as a cut through. Such design features are commonly referred to as traffic calming measures and can include features such as stop signs, speed humps, narrowing, chicanes, turn restraints, and continuity diminishment among many others. More dramatic traffic calming measures such as diagonal diverters or cul-de-sac closures involve route influencing physical barriers within streets to redirect traffic flow. A Bloomington example of this feature can be seen on James Avenue at 92nd Street. Formerly a through street, a diagonal diverter was added to James Avenue to separate industrial and residential traffic. Bloomington has historically employed cul-de-sacs, street loops, severances, turn restraints, and other operational management techniques.

The City will undertake a study of traffic calming measures to assess their impact and to consider their feasibility for added implementation in Bloomington. Any implementation of traffic calming measures must take into consideration impacts on pedestrians, bicyclists, emergency vehicles, as well as costs and benefits. Climate, maintenance needs, and safety must also be considered. Since most Bloomington local residential streets do not have sidewalks, residents use the roadway for walking or biking. Any design feature that narrows the roadway to calm traffic may create negative impacts to walkers and bikers who also need to use the roadway. Implementation of traffic calming may therefore require installation of a sidewalk along the affected roadway before other restraining devices and added.

**Traffic Volumes in Residential Neighborhoods/Cut Through Traffic**

The level of automobile traffic on adjacent streets is a significant concern for some Bloomington residents. In some cases, the volumes may simply be a reflection of a street's functional classification and may be unavoidable. Bloomington does have many high volume arterial and collector streets with adjacent residential land uses where the traffic volumes are not a reflection of cut through traffic but of traffic generated within the immediate area travelling the expected route. In these cases, traffic volume impacts must be addressed through encouraging compatible land uses and appropriate physical design (setbacks, building orientation, structural type, acoustic insulation, window placement, etc.) along the route, which is possible to do with new development or redevelopment but is not helpful to existing incompatible residential uses. In other cases, excess volumes are primarily a reflection of cut through traffic due to congestion or bottlenecks on principal streets. In these cases, volume can be addressed through roadway improvements or design features as discussed below.

The route drivers select is usually based on time. If an alternative route can save time, drivers will tend to use it. When congestion or bottlenecks affect more direct, higher volume streets, drivers seeking short cuts may result in excess volumes on particular stretches of neighborhood streets. The best option and the City's first strategy for addressing these situations is to correct the bottleneck that is creating or influencing the cut through traffic. To this end, the next section discusses numerous proposed short and long range improvements to the Bloomington roadway system.

In some cases, however, bottlenecks will not be easy to correct. Cost or physical circumstances will preclude or significantly delay their correction. In these cases, the City will consider the feasibility and appropriateness of design features that discourage use of local residential streets as cut throughs. These features will be further discussed in a study of traffic calming measures to be prepared by the Traffic Division. Such measures will need to be implemented in a manner that does not simply transfer the cut through traffic to the next local residential street.

To promote an orderly and consistent approach toward complaints regarding traffic law compliance and traffic volume, the Traffic Division will establish comment procedures. These procedures will be summarized in an easy to read brochure that will assist neighborhoods in understanding the process for complaint review. The procedures will also discuss when the City will undertake special studies to further assess identified problems and the review those studies will receive at the Traffic and Transportation Advisory Commission and the City Council.

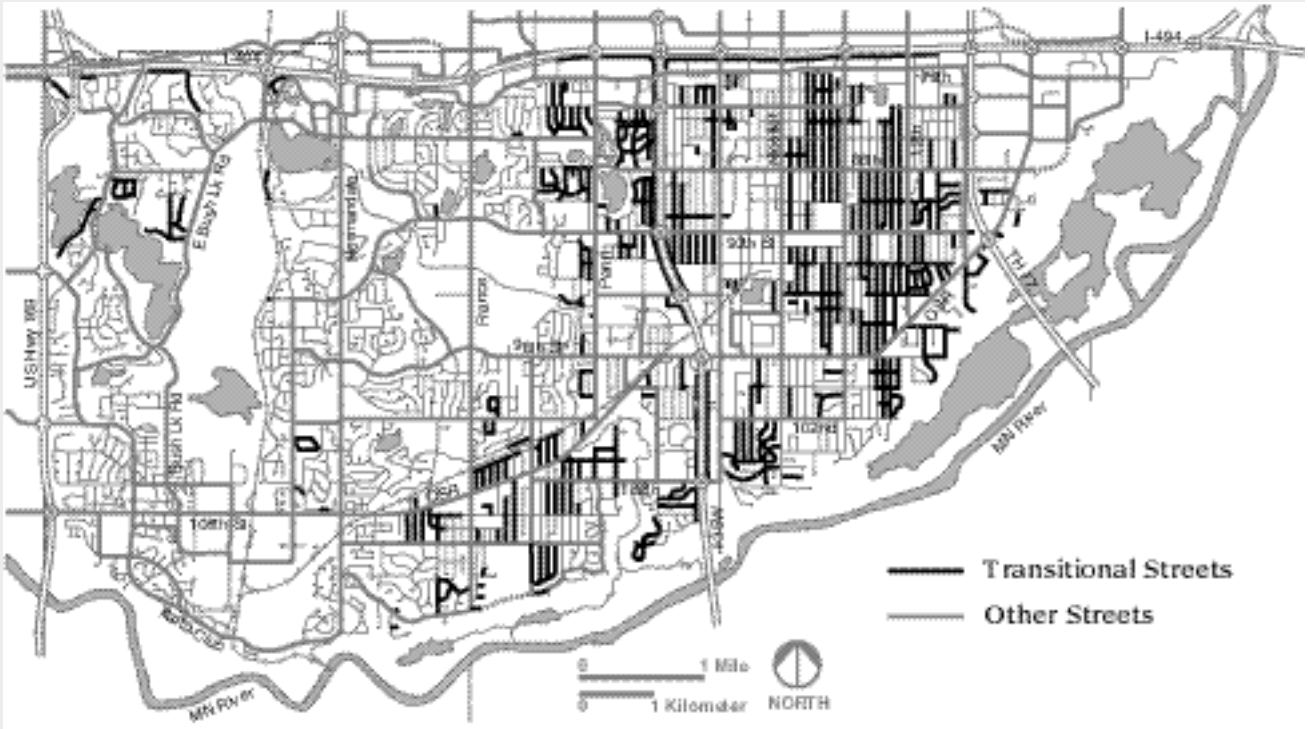
## Planned Roadway Improvements

To combat congestion, improve safety, promote residential compatibility, and meet the needs of forecast future development, the City proposes numerous improvements to the existing roadway system. These improvements are depicted in *Figure 4.7* and summarized in the Transportation Element Appendix. Some of the depicted improvements are already scheduled for construction; others are included simply to be held in abeyance for future evaluation. Those held in abeyance may or may not ever materialize depending on future development and traffic conditions.

Roadway improvements require sufficient physical space for construction. To ensure that new development does not negatively impact upon future right of way needs, the Zoning Ordinance requires all building setbacks to be measured from planned, widened right of way lines. Right of way needs are documented on an official map maintained in the Public Works Department. For illustration purposes, a non-official map depicting minimum right of way requirements is included within this plan as *Figure 4.8.*

There are streets in Bloomington that lack structural integrity, lack curb and gutter, or have faulty drainage circumstances. The City Pavement Management Program generally defines these streets with temporary base or surface character as “transitional streets”. The City of Bloomington intends all streets to become permanent in structure type as they can be phased into the construction program. By policy established with the Pavement Management Program by the City Council in1992, transitional streets are eligible for overlay as a pavement rehabilitation strategy. Sealcoats can be applied provided existing pavement conditions conform to standards established in the Pavement Management Program. *Figure 4.9* depicts the location of transitional streets in Bloomington.

***Figure 4.9*** **Transitional Streets**




***Source: Bloomington Traffic Division, February 2000***

**[Insert Figure 4.7: Roadway Improvements – color, 11 x 17 map]**

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**[Insert Figure 4.8: Minimum Right of Way Requirements – 11 x 17, black and white map]**

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# 4.3 Transit

Bloomington supports the provision of a high quality transit system as a way to:

- provide transportation to residents who do not have access to an automobile or who choose transit as their preferred mode;
- manage congestion on area roadways;
- increase the number of potential employees with easy access to employment in Bloomington;
- promote additional economic development;
- conserve natural resources; and,
- diversify transportation options available to Bloomington residents.

Transit service in Bloomington is in a state of transition. Future federal and state transit funding levels are uncertain. The region's primary transit provider, the Metropolitan Council through its Metro Transit Division, is in the process of redesigning its service. Meanwhile, major transit improvements are planned in Bloomington, including light rail transit (LRT) service, new bus service, and, in the long term, potentially commuter rail.

Given increasing traffic levels on the region's principal arterials, limited roadway expansion funding, tightening environmental requirements, planned transit infrastructure investments, increasing employment density, and the temporary loss of roadway capacity that will be created by planned construction projects, transit's role in Bloomington will expand in the future. Bloomington will work with transit providers in this time of transition to facilitate high quality transit service and address the deficiencies of the current system.

## Existing Transit System

Bloomington's existing transit system consists primarily of several bus routes, as depicted in *Figure 4.10*. The frequency of service varies among the routes. Several of the routes operate only during peak morning and evening commuting times. Route 5 (connecting the Mall of America with downtown Minneapolis via

Chicago Avenue) has the longest operating period, from 5 a.m. until midnight. Service is operated by a variety of providers, including:

**Metro Transit** - A division of the Metropolitan Council, Metro Transit operates most scheduled bus service in Bloomington. Metro Transit routes focus on taking riders to downtown Minneapolis or to subregional transit hubs such as the Mall of America, Southdale, or Southtown.

**BE Line** - BE (Bloomington-Edina) Line service currently consists of two bus routes (88 and 89) that circulate through Bloomington and Edina between Southdale and the Mall of America. BE Line Service is provided by a private bus company under a contract administered by the Metropolitan Council.

**Minnesota Valley Transit** - Minnesota Valley Transit operates bus service in several communities south of the Minnesota River. Two of Minnesota Valley's bus routes (77 and 42) stop at the Mall of America and another route (31) connects the Burnsville Transit Station with portions of western Bloomington.

**Southwest Metro Transit** - Southwest Metro Transit operates bus service in Eden Prairie, Chanhassen, and Chaska. Southwest Metro links the Mall of America with Southwest Station in Eden Prairie via local (590) and express bus routes (53M).

**University of Minnesota** - The University of Minnesota operates bus service to bring riders to the University. One of these routes (52A) originates at the Mall of America.

**City of Bloomington** - The City of Bloomington, through its Human Services Division, offers group route, door to door bus service within Bloomington using two buses. Those eligible to use this service include older adults, children, families, and people with disabilities.

**Metro Mobility** - Metro Mobility, a division of the Metropolitan Council, offers door to door bus service for individuals with disabilities.

**Volunteers Enlisted to Assist People (VEAP)** - VEAP has a network of volunteer drivers offering rides to medical appointments to individuals with no other transportation resources.

**Private Services** - Transit in Bloomington is also provided by numerous private taxicab companies and private disability transportation services.

**[Insert Figure 4.10: Bus Routes and Park and Rides – 11 x 17 fold out, black and white map]**

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